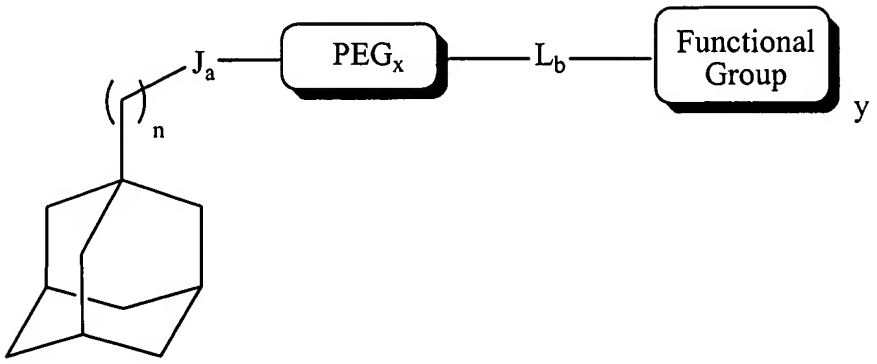
IN THE CLAIMS

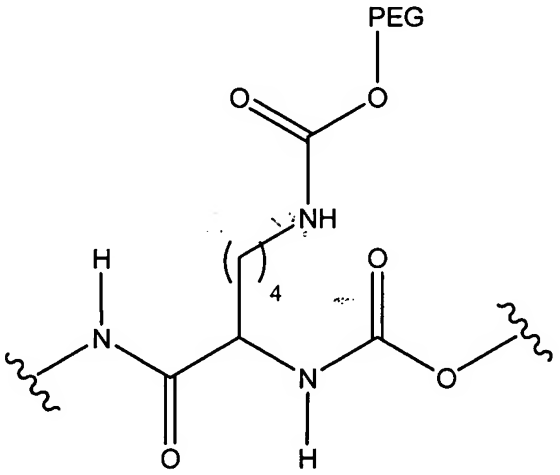
1. (Withdrawn) An adamantane derivative of the formula:



wherein

J is –NH–, –C(=O)NH–$(CH_2)_d$–, –NH–C(=O)–$(CH_2)_d$–, –CH_2SS–,

–C(=O)O–$(CH_{.2})_e$–O–P(=O)(O–$(CH_2)_e$–Ad)O–,



a peptide or polypeptide residue, or –NH(C=O)–CH(R^1)–NH–(C=O)–CH(R^1)–NH–;

Ad is adamantyl;

R^1 is –$(CH_2)_a$–CO_2H, an ester or salt thereof; or

–$(CH_2)_a$–$CONH_2$;

PEG is –$O(CH_2CH_2O)_z$–, where z varies from 2 to 500;

L is H, –NH_2, –NH–(C=O)–$(CH_2)_e$.–(C=O)––CH_2, –$S(=O)_2$–HC==CH_2–, –SS–, –C(=O)O– or a carbohydrate residue;

a is 0 or 1;

b is 0 or 1;

d ranges from 0 to 6;
e ranges from 1 to 6;
y is 0 or 1; and
x is 0 or 1.

2. (Withdrawn) A composition comprising a particulate composite of a polymer and a therapeutic agent and an inclusion complex of said polymer and a complexing agent having a functional group.

3. (Withdrawn) A composition of claim 2, wherein said polymer has host functionality and said complexing agent has guest functionality.

4. (Withdrawn) A composition of claim 2, wherein said polymer has guest functionality and said complexing agent has host functionality.

5. (Withdrawn) A composition of claim 2, wherein said polymer has host and guest functionality and comprising a mixture of complexing agents having guest and host functionality.

6. (Withdrawn) A composition of claim 3, 4, or 5 wherein said host functionality is selected from the group of cyclodextrin, a carcerond, a cavitanal, a crown ether, a cryptand, a cucurbituril, a calixerane, a spherand or a mixture thereof.

7. (Withdrawn) A composition of claim 3, 4, or 5 wherein said complexing agent further comprises a spacer group.

8. (Withdrawn) A composition of claim 3, 4, or 5, wherein said inclusion guest is selected from the group consisting of adamantane, diadamantane, naphthalene, and cholesterol.

9. (Withdrawn) A composition of claim 8, wherein said host functionality is a cyclodextrin and said inclusion guest is adamantane or diadamantane.

10. (Withdrawn) A composition of claim 2, 3, 4, or 5 wherein said functional group of said functional group is a ligand, nuclear localization signal, endosomal release peptide, endosomal release polymer, a second therapeutic agent, a stabilizing polymer/hydrophilic polymer for stabilization or a mixture thereof; and said spacer group is selected from the group consisting of: a direct link, a phophate group, and polyethylene glycol and a short anionic peptide sequence.

11. (Withdrawn) A composition of claim 2, 3, 4, or 5 wherein said therapeutic agent is selected from the group consisting of an antibiotic, a steroid, a polynucleotide, small molecule pharmaceutical, a viruse, a plasmid, a peptide, a peptide fragment, a chelating agent, a biologically active macromolecule, and mixtures thereof.

12. (Cancelled)

13. (Withdrawn) A method of delivering a therapeutic comprising the step of administering to a person in recognized need of the therapeutic agent a therapeutically effective amount of a composition of claim 2, 3, or 5.

14. (Currently amended) A method of preparing a composition, comprising combining a therapeutic agent, a cyclodextrin-containing polymer having host and/or guest functionality, and a complexing agent to form the composition, wherein said cyclodextrin-containing polymer and said complexing agent form an inclusion complex, and said therapeutic agent, polymer, and complexing agent are separate molecules.

15. (Previously presented) A method of claim 14, wherein said therapeutic agent is first combined with said polymer and the resulting mixture is then combined with said complexing agent such that said polymer and said complexing agent form an inclusion complex.

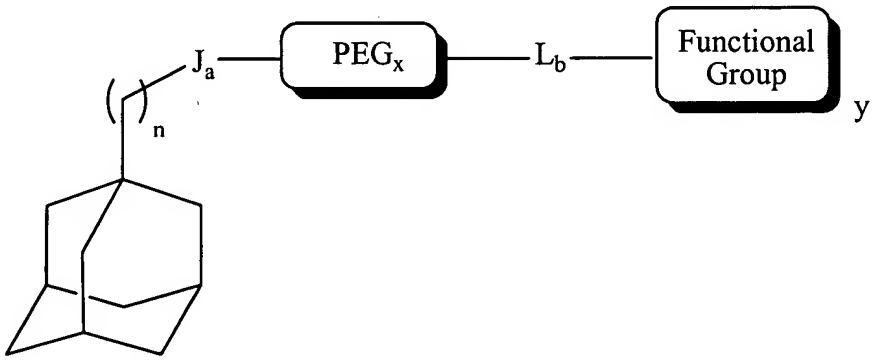
16. (Previously presented) A method of claim 14, wherein said polymer is first combined with said complexing agent to form an inclusion complex and said inclusion complex is combined with said therapeutic agent.

17. (Cancelled)

18. (Previously presented) A method of claim 14, wherein said therapeutic agent is selected from an antibiotic, a steroid, a polynucleotide, small molecule pharmaceutical, a virus, a plasmid, a peptide, a peptide fragment, a chelating agent, a biologically active macromolecule, and mixtures thereof.

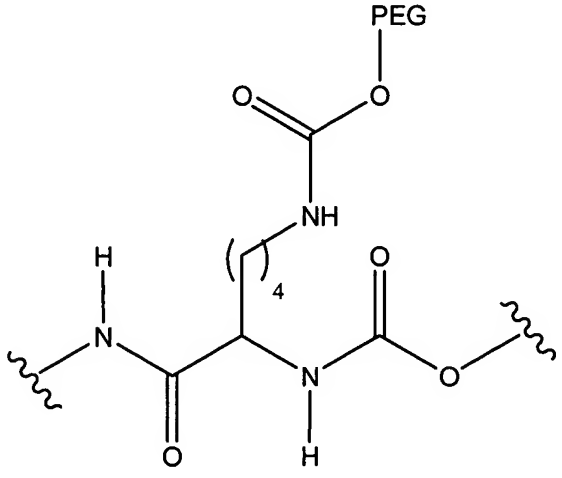
19. (Previously presented) A method of claim 18, wherein said therapeutic agent is a polynucleotide.

20. (Previously presented) A method of claim 14, wherein the complexing agent is an adamantane derivative of the formula:



wherein

J is –NH-, -C(=O)NH-$CH_2)_d$-, -NH-C(=O)-$(CH_2)_d$-, -CH_2SS-, -C(=O)O-$(CH_2)_e$-O-P(=O)(O-$(CH_2)_e$-Ad)O-,



, or

-NH-(C=O)-CH(R^1)-NH-(C=O)-CH(R^1)-NH-;

Ad is adamantyl;

R^1 is –(CH_2)-CO_2H, an ester or salt thereof; or –$(CH_2)_a$-$CONH_2$;

PEG is $-O(CH_2CH_2O)_z-$, where z varies from 2 to 300;

L is H, -NH, $-NH-(C=O)-(CH_2)_e-(C=O)-CH_2-$, $-S(=O)_2-HC=CH-$, -SS-, $-C(=O)O-$, or a carbohydrate residue;

a is 0 or 1;

b is 0 or 1;

d ranges from 0 to 6;

e ranges from 1 to 6;

n ranges from 0 to 6;

y is 1; and

x is 0 or 1.

21. (Cancelled)

22. (Previously presented) A method of claim 14, wherein complexing agent comprises at least one functional group and a host/guest moiety that forms an inclusion complex with the polymer.

23. (Previously presented) A method of claim 14, wherein the at least one functional group includes a group selected from a ligand, a nuclear localization signal, an endosomal release peptide, an endosomal release polymer, or a membrane permeabilization agent.

24. (Previously presented) A method of claim 14, wherein the at least one functional group includes a moiety that increases the solubility of the composition under biological conditions relative to a composition of the polymer and therapeutic agent alone.

25. (Previously presented) A method of claim 14, wherein the at least one functional group includes a moiety that stabilizes the composition under biological conditions relative to a composition of the polymer and therapeutic agent alone.

26. (Previously presented) A method of claim 14, wherein the at least one functional group includes a therapeutic agent reversibly bound to the complexing agent.

27. (Previously presented) A method of claim 14, wherein the polymer comprises a host moiety that forms an inclusion complex with a guest moiety of the complexing agent.

28. (Previously presented) A method of claim 14, wherein the polymer comprises a guest moiety that forms an inclusion complex with a host moiety of the complexing agent.

29. (Previously presented) A method of claim 14, wherein the complexing agent further comprises a spacer group positioned between the functional group and the host/guest moiety.

30. (Previously presented) A method of claim 14, wherein the guest moiety is an adamantyl group and the host moiety is a cyclodextrin moiety.

31. (Previously presented) A method of claim 14, wherein the host/guest of the complexing agent is selected from adamantyl, diadamantyl, naphthyl, cholesterol, cyclodextrin, and mixtures thereof.

32. (new) A method of claim 14, wherein the polymer contains at least one cyclodextrin moiety in the backbone of the polymer.

33. (new) A method of claim 32, wherein the polymer is a linear cyclodextrin polymer.

34. (new) A method of claim 14, wherein the polymer contains at least one cyclodextrin moiety in a pendant or branched chain.